Tell whether the equation is direct variation. If yes, identify k.

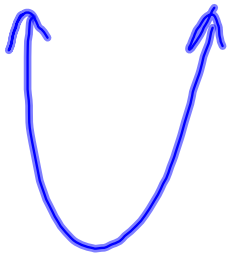
① $y = 3x + 2$

② $y = \frac{3}{2}x$ ✓ $k = \frac{3}{2}$

③ $y = \frac{2}{x}$ ×

④ $y = x^2$

$y = kx$



$(3, 4)$ (x_1, y_1) $\quad m = -3/4$

$y - y_1 = m(x - x_1)$

$y - 4 = -3/4(x - 3)$

$y - 4 = -\frac{3}{4}x + \frac{9}{4}$ $\quad 2.25$

$+4 \qquad +4$

$y = -3/4x + \frac{25}{4} = -3/4x + 6.25$

$(2,1)\ (3,0)$

① $m = \frac{y_2 - y_1}{x_2 - x} = \frac{1-0}{2-3} = \frac{1}{-1} = -1$

② $y - y_1 = m(x - x_1)$

$y - 1 = -1(x - 2)$

$y - 1 = -x + 2$

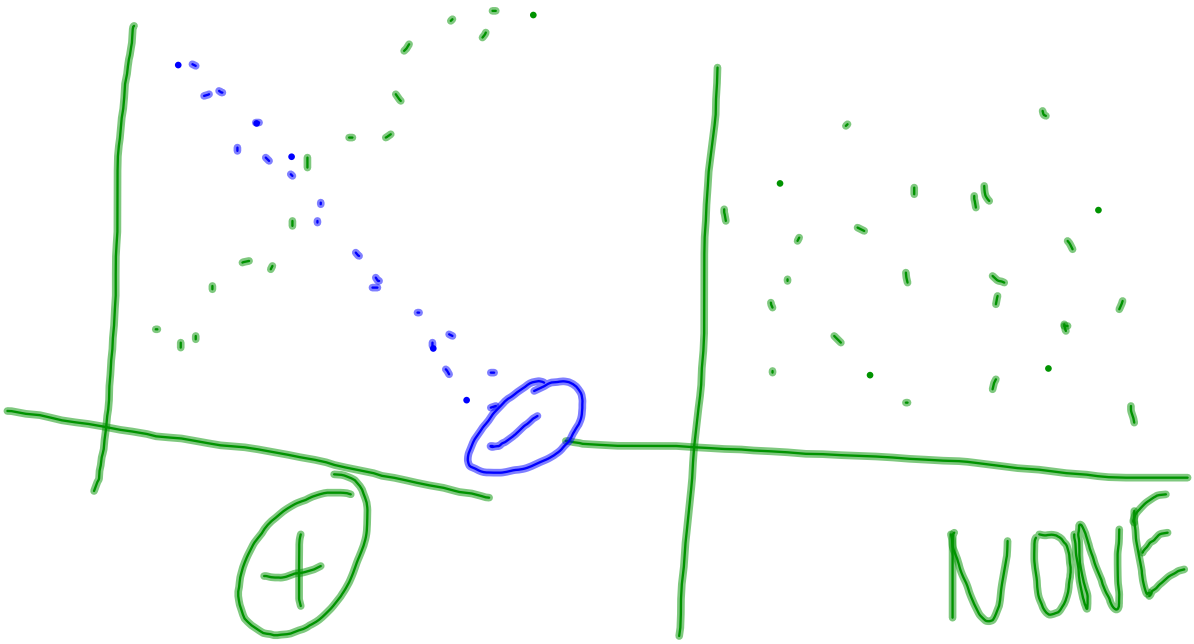
$+1 \qquad +1$

$y = -x + 3$

$\frac{1}{2} \Rightarrow -\frac{2}{1}$

$\frac{1}{2} \cdot \frac{-2}{1} = \frac{-2}{2} = -1$ ✓

$y = \frac{1}{2}x + 4$


+
-
NONE

$$y - y_1 = m(x - x_1)$$

$y = mx + b$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{y_1 - y_2}{x_1 - x_2}$$

$y = -3|x+1|-2$

$y = a|x-h|+k$

(h,k) - Vertex

$y = a|x--1|+-2$

$y = a|x+1|-2$

① $(\overset{h}{-1}, \overset{k}{-2})$

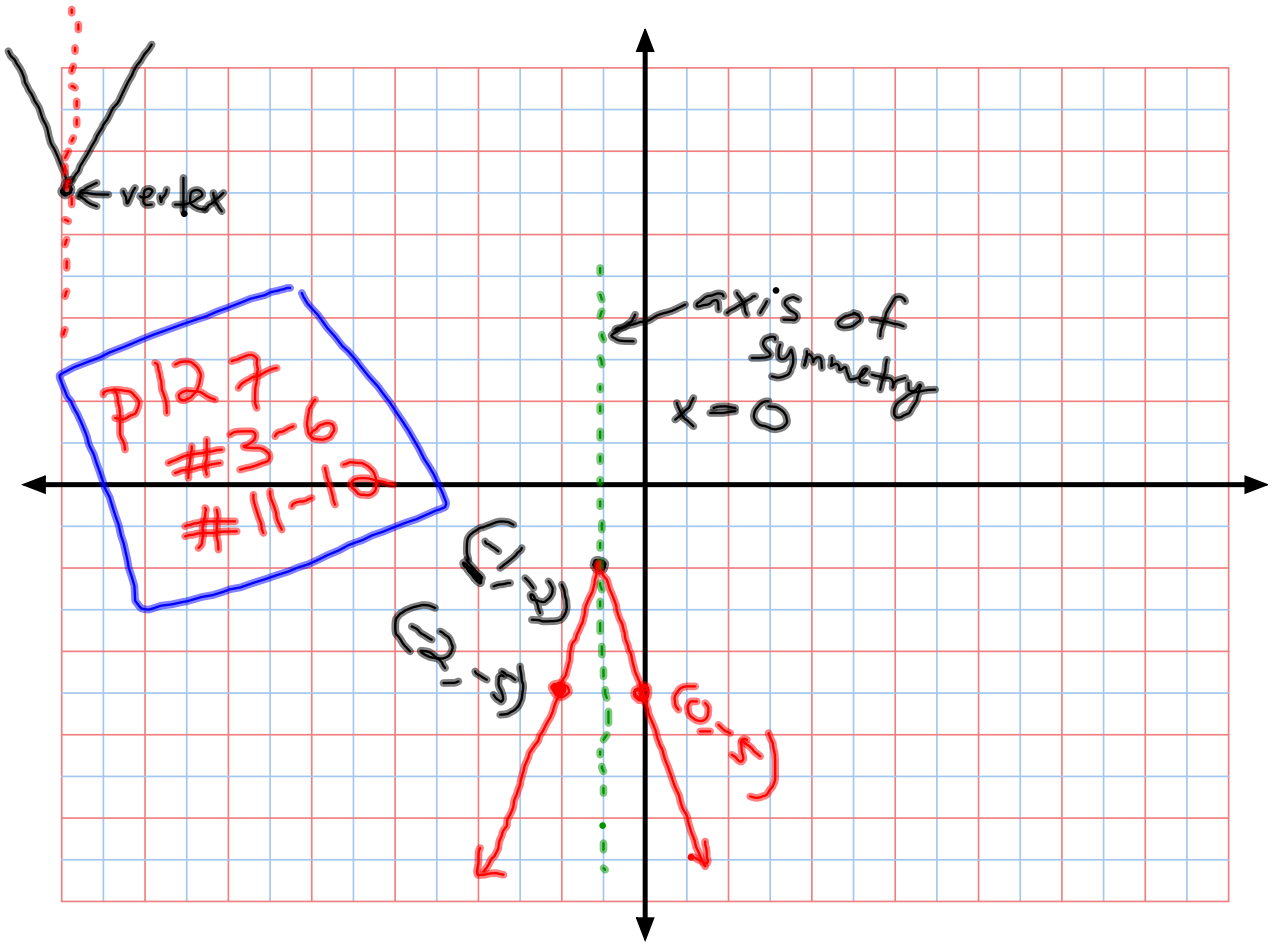
② $x=0$

$y = -3|0+1|-2$

$y = -3|1|-2$

$y = -3-2 = -5$

(0, -5)


vertex
axis of symmetry
x = 0
p127
#3-6
#11-12
(-1, -2)
(-2, -5)
(0, -5)